

## University of Wisconsin Milwaukee UWM Digital Commons

---

UWM Libraries Other Staff Publications

UWM Libraries

---

12-7-2017

# It Works All the Time ... Except for When It Doesn't: Analyzing Error Reports from a Library Link Resolver

John Hubbard

*University of Wisconsin-Milwaukee*, [hubbardj@uwm.edu](mailto:hubbardj@uwm.edu)

Follow this and additional works at: [https://dc.uwm.edu/lib\\_staffart](https://dc.uwm.edu/lib_staffart)



Part of the [Library and Information Science Commons](#)

---

### Recommended Citation

Hubbard, John, "It Works All the Time ... Except for When It Doesn't: Analyzing Error Reports from a Library Link Resolver" (2017).  
*UWM Libraries Other Staff Publications*. 10.  
[https://dc.uwm.edu/lib\\_staffart/10](https://dc.uwm.edu/lib_staffart/10)

This Article is brought to you for free and open access by UWM Digital Commons. It has been accepted for inclusion in UWM Libraries Other Staff Publications by an authorized administrator of UWM Digital Commons. For more information, please contact [open-access@uwm.edu](mailto:open-access@uwm.edu).

## **It Works All the Time ... Except for When It Doesn't: Analyzing Error Reports from a Library Link Resolver**

“Nothing we see or hear is perfect. But right there in the imperfection is perfect reality.”

—Shunryu Suzuki

### Introduction

Library Services Platforms have thousands of features and provide access to items numbering in the hundreds of millions. Expecting everything to always perform without any problems is therefore not remotely realistic. Yet examining the ways in which these systems fail can provide useful insights for minimizing the number and frequency of such occurrences.

The University of Wisconsin-Milwaukee Libraries use the Primo-Alma discovery layer. Our homepage features a single search box that returns integrated results from local holdings, including digital collections, as well as records from a large database known as the Primo Central Index. We are part of a consortial system; converted to the “New Primo UI” in May 2017 (after a seven-month public beta); and have committed to making minimal customizations.

The Alma Link Resolver and its associated electronic resource management platform represent a tremendous improvement over what are by now the thankfully and largely historical research methods of using print indexes, shelf lists, and bound journals. By cataloging our electronic subscriptions and online holdings with Alma, results in the Primo front end are presented with links leading to the various source destinations for obtaining the full text of those publications.

Although these systems work largely as designed, when you have a patron base conducting millions of searches, even miniscule error rates can produce a significant number of issues. Furthermore, whereas all successful searches more or less function identically, each reported error may be a sign of something uniquely faulty in its own way.

### Data

“Report a Problem” links were added to each Primo detailed result screen in February of 2016. These links lead to a page with a form that collects information from the referring URL, solicits the patron’s contact information, and offers the ability to provide additional feedback. This page also includes instructions on basic troubleshooting techniques for fixing common errors.



ARTICLE / multiple sources exist. [see all](#)

**The paradox of Alypius and the pursuit of unwanted information**  
Kruger, Justin ; Evans, Matt

[Full text available](#) ☒ [>](#)

Send to

EXPORT BIBTEX   ENDNOTE   CITATION   PRINT   PERMALINK   REFWORKS   E-MAIL

View It

Sign-in for more options [Sign in](#)

Full text available at: [ScienceDirect](#) ☒  
Available from 2005 volume: 41 issue: 1

Additional Options

[Report a Problem](#) ☒

**UNIVERSITY OF WISCONSIN SYSTEM**  
**LW**

### Report a problem

Name

Email \*

Comments or Questions

Report a problem using "Get It" or "View It"

The links under the "Get It" or "View It" tabs are those the system believes will connect with the full text of the item. Imperfections may sometimes cause it to not function properly.  
To assist you with troubleshooting these errors, here are a few things you can try:

**Check other sources**

The "Get It" or "View It" tab may list more than one site where your article is available. If one of the links is faulty, another may still work.

**Search the source directly**

There may be some malformed syntax in the link. Connect from your library's databases list, where you may be able to search and retrieve the full text.

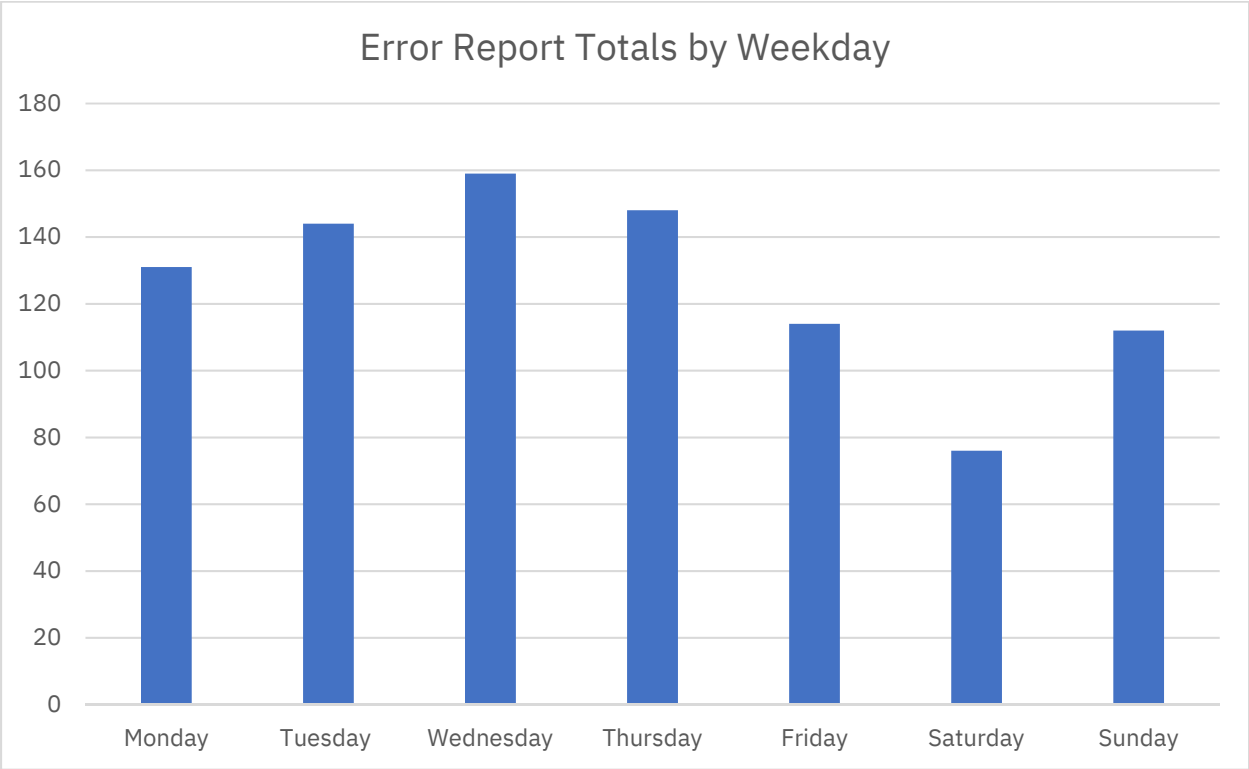
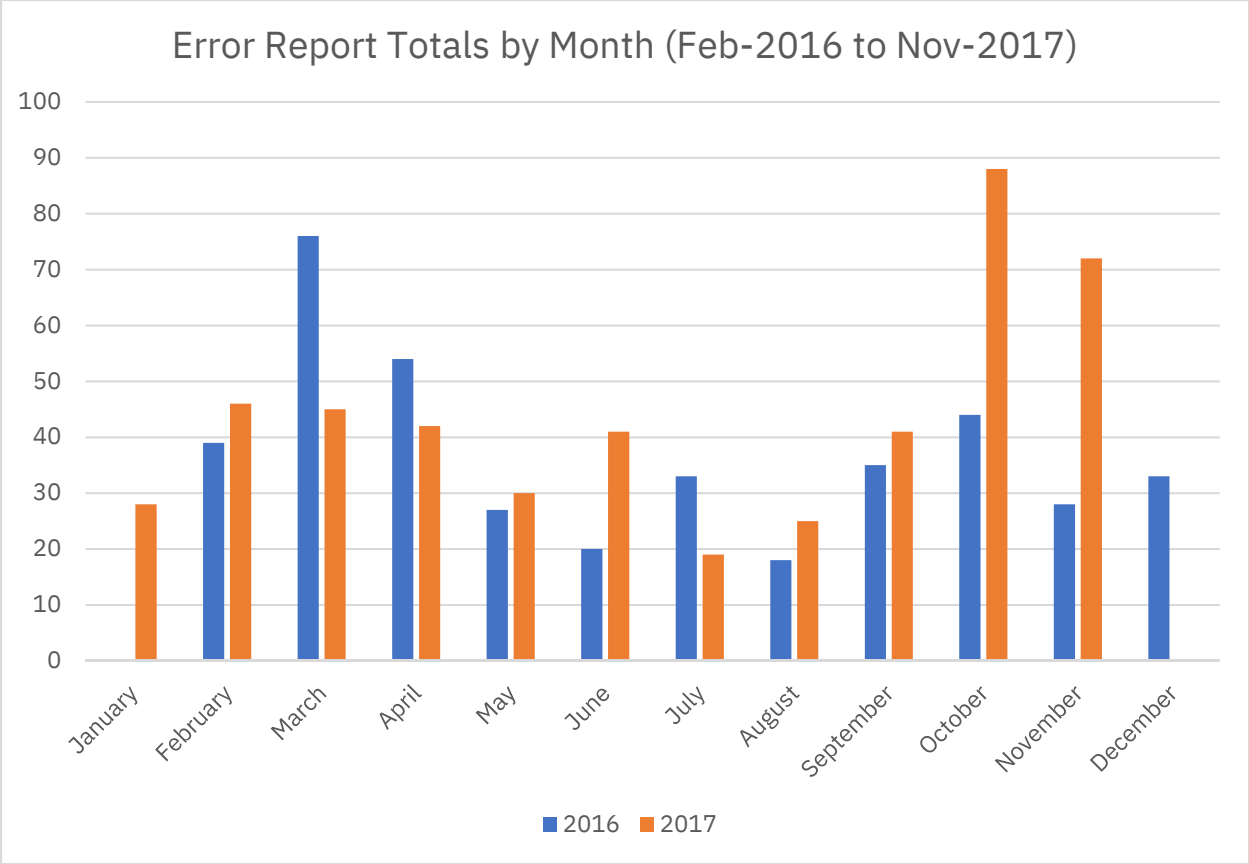
**Look for an Open Access version**

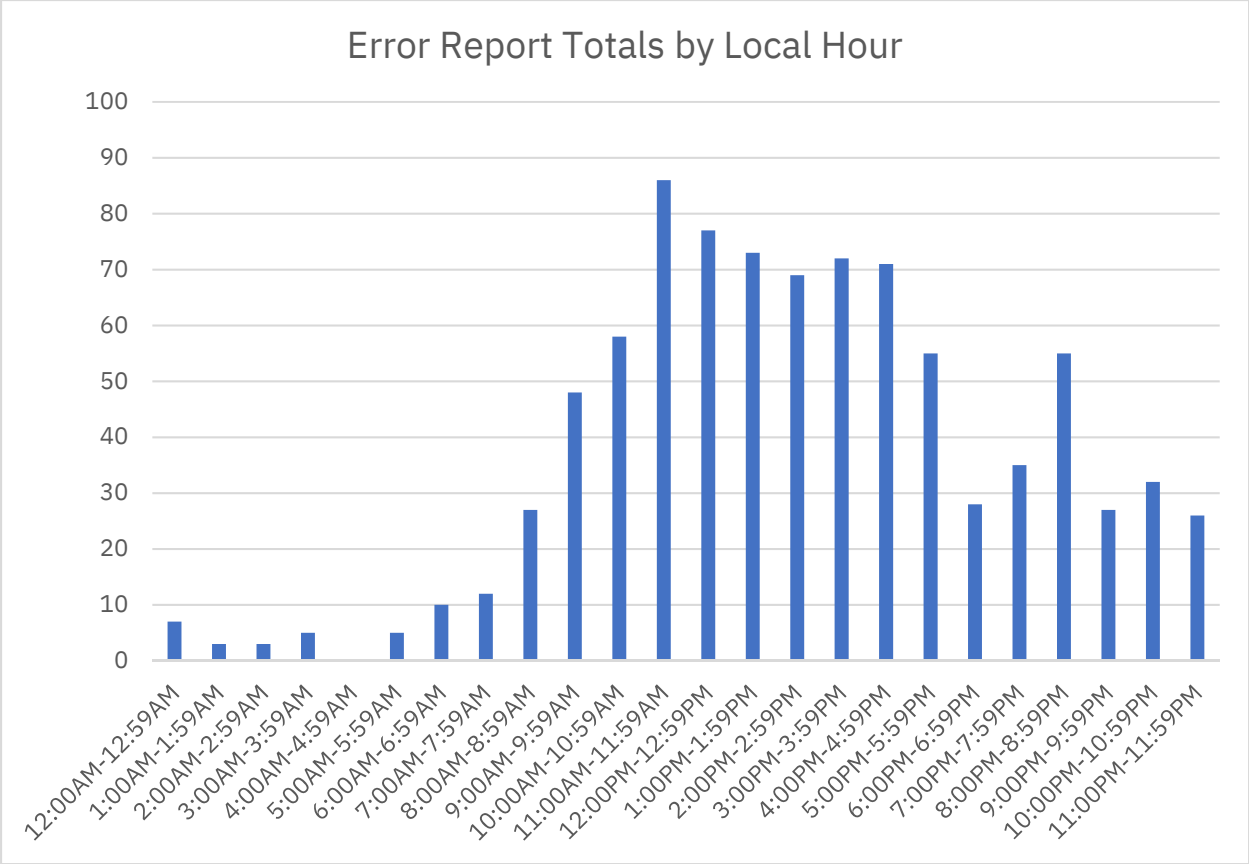
You may find your article freely available online through a web search. Try searching for the article title, possibly with additional information. Google supports the use of "filetype:pdf" for example, to search for just PDFs.

**Request your item through Interlibrary Loan**

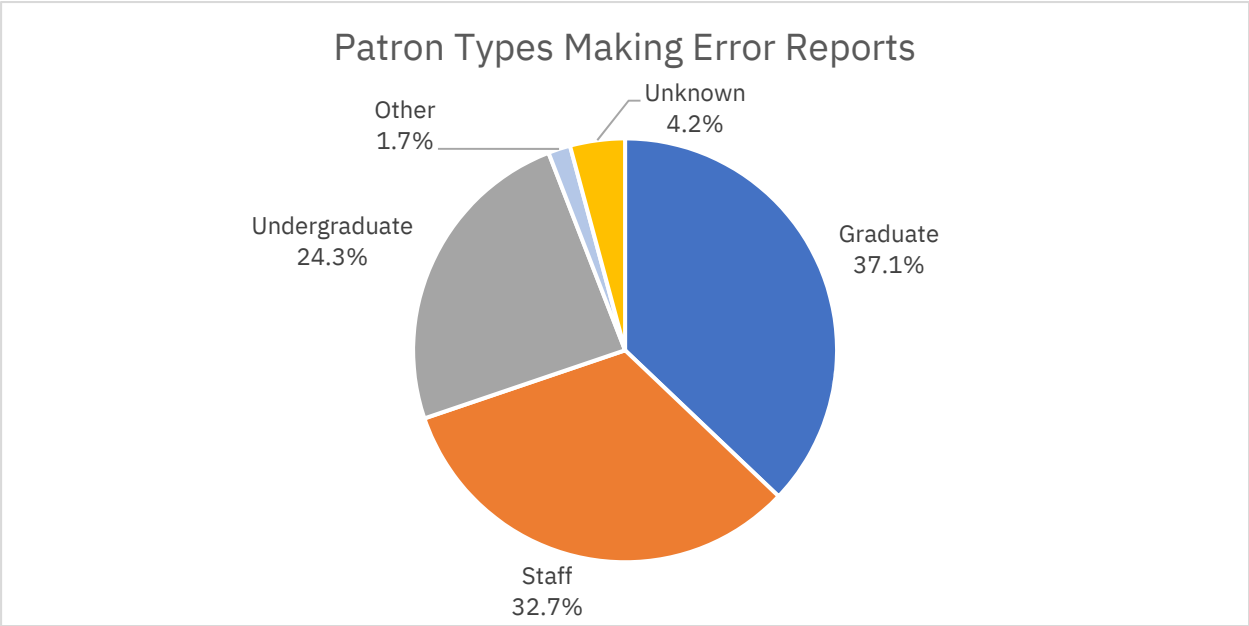
If all else fails, you can still obtain a copy through Interlibrary Loan.

Between February 2016 and November 2017, 884 error reports were made.

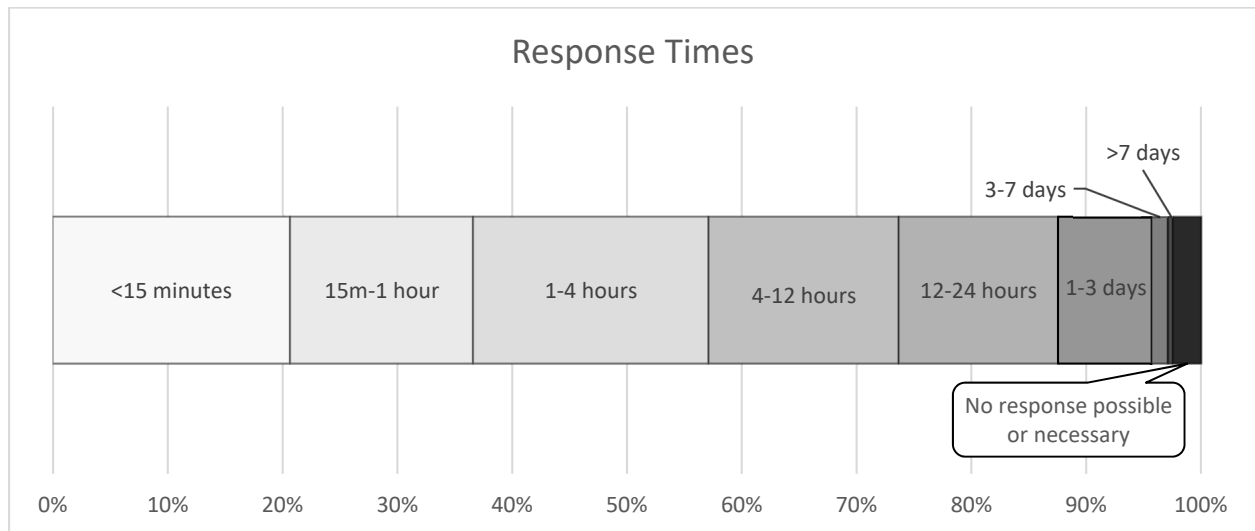




The 884 reports were made by a total of 615 unique users. This is amongst an approximate headcount of university employees and students totaling 30,000. Undergraduate students were underrepresented.



The median response time was two hours and thirteen minutes. Approximately three-quarters of all responses were sent within twelve hours.



To classify the types of errors reported, a taxonomy with three broad categories was defined: end user errors; defects in vendor systems; and problems with our local configuration settings.

#### User Errors

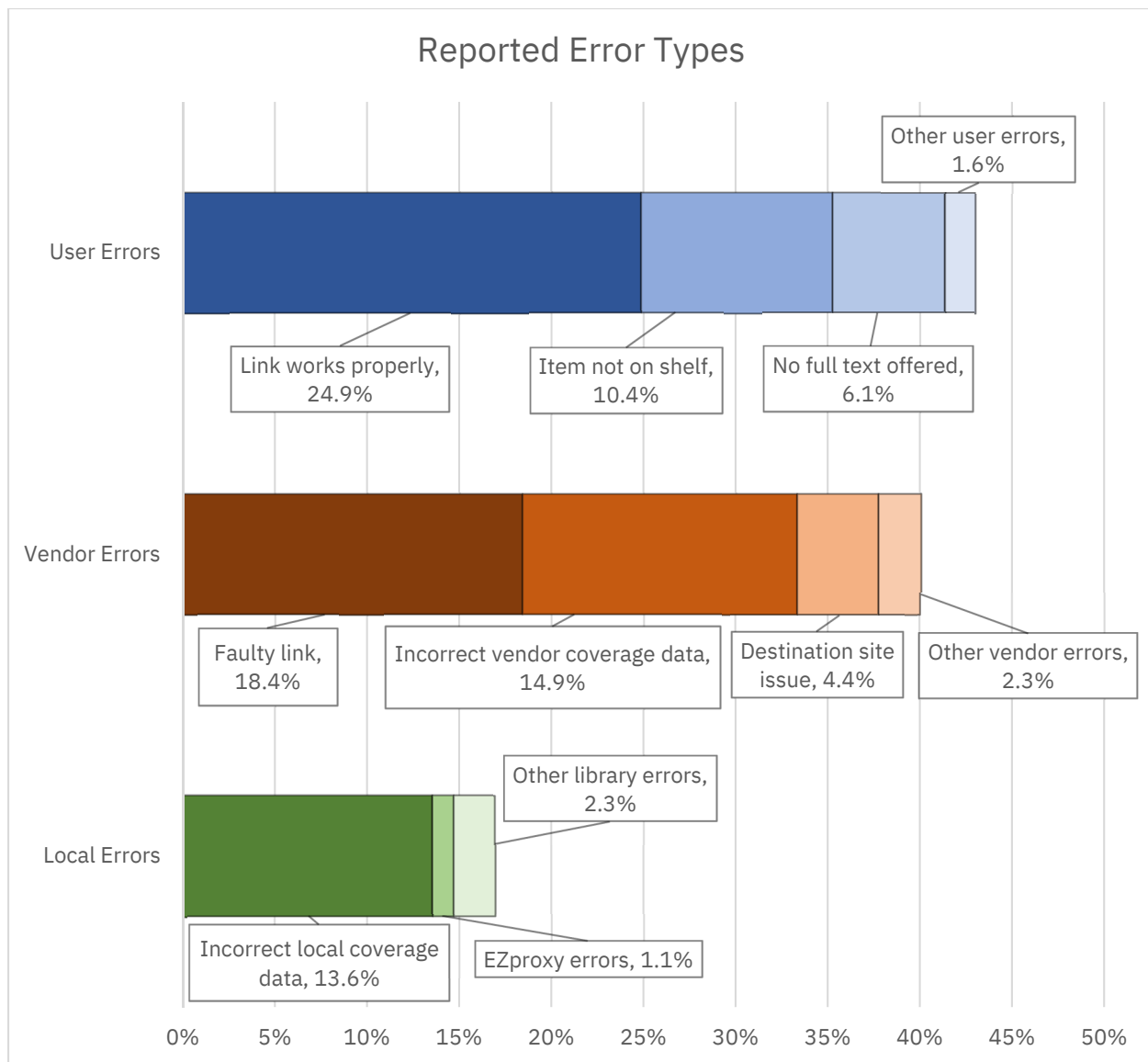
1. The link worked properly and the full text for the item was available
2. A print item was not found on the shelf, or the user was attempting to make a paging request for that material (which is done through a separate link)
3. No full text link was offered because we did not have online access to the title
4. Other user errors

#### Vendor Errors

1. Bad links provided by Alma (yet the item was still available by searching the destination site directly)
2. Alma had incorrect coverage data and the item was not obtainable in the database as advertised
3. The destination site was offline or experiencing other issues
4. Other vendor errors

#### Local Errors

1. We had incorrect coverage data entered for the title in question (such as the wrong date range of availability)
2. EZproxy errors (typically the domain was not entered in our configuration file)
3. Other library errors



It is important to keep a sense of perspective about these problems. During the 22-month time frame in question, 2,150,087 searches were conducted in our local Primo instance. This represents 0.041% of searches resulting in an error report being made, or one report for every 2,432 searches.

### Discussion

These statistics do not reflect the total number of problems patrons have encountered or reported. Problems may be communicated through other channels, such as direct contact with a public service point. It is also quite possible that many and even most users don't report errors, but rather simply move on to the next functioning result.

A few individual incidents generated multiple reports:

- Ebsco linking malfunction (March 2016) - All links to the Ebsco platform were broken
- Ebook Central Migration (December 2016) - An upgrade to a new site rendered all ebook links inoperative
- EZproxy wildcard certificate (Resolved October 2016) - A warning appeared for secure sites accessed off campus
- Malware warning (March 2017) - The Alma resolver domain was blacklisted

Other issues of particular note:

- The stated 'no full text' message (with the system working as intended when access is not immediately available) is a problem in and of itself for several patrons, as is merely landing on the journal homepage rather than deep linking directly to the desired article.
- The error reporting form was originally designed by an institution that does not use Primo as a discovery layer. One consequence of this is the use of the "Report a Problem" mechanism for print titles not found on the shelf or held elsewhere in the consortium, when instead the paging and resource sharing links should be used.
- Due to insufficient metadata, Alma is prone to miscalculate embargo periods for online availability. E.g., does an 18-month embargo cover volume 46 issue 4?
- A high percentage of reports seem to come from records for preprints, supplemental issues, titles containing special characters, book reviews, and conference or poster abstracts.

Almost one-quarter of all error reports were made without any discernable cause. They may have been due to software errors on the users' end, or a lack of understanding regarding how Primo and other and other electronic resources function. For example, people may not readily find "Download PDF" links, or view short articles published in their entirety as missing the full text.

In the case of linking failures, where the items were still obtainable via a search in the destination site, the stated workarounds functioned properly, yet were not used.

More routine audits of our coverage data could help fix many problems. We still have several records imported from our previous ILS. Some of these contain no date range and are inaccurate.

Since converting to Alma, we've reported hundreds of tickets to the Ex Libris data services and content operations support teams. This seems to be evidence supporting the statement, in



their parent company's marketing materials (for 360 Link), how, "Traditional link resolvers that are reliant solely on OpenURL technologies can fail as much as 5-30% of the time." 360 Link, in comparison, touts "near 100% success rates."

### Conclusion

Having better data, at both the local and vendor levels, would of course reduce the amount of encountered errors. There also is a need for more intuitive interfaces, continued end user instruction, and improved graceful failure handling for when linking products fail.

Previous generations of library research tools offered powerful and precise features but also possessed significant usability impediments, especially compared to their commercial counterparts. As we make the turn towards providing more accessible systems, it's important to minimize the amount of misinformation contained therein. This is proving to be an increasingly challenging task in an age of big and linked data.

### Further Reading

[https://knowledge.exlibrisgroup.com/SFX/Knowledge\\_Articles/Common\\_Causes\\_of\\_Full\\_Text\\_Linking\\_Problems](https://knowledge.exlibrisgroup.com/SFX/Knowledge_Articles/Common_Causes_of_Full_Text_Linking_Problems)

What Are the Common Causes of Full Text Linking Problems, and How Can Linking Be Improved? (Ex Libris Knowledge Center)

<http://www.proquest.com/blog/pqblog/2015/WFS2015-New-360-Link-Features.html>

New 360 Link Features and Functionality Strengthen the Library's Research Role (ProQuest)

\*

December 7, 2017

The author wishes to thank his colleagues Kristin Briney, Karen Jander, and Joe Tomich for their assistance in preparing this report.

This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).